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EXAMINER

COLBERT, ELLA

ART UNIT PAPER NUMBER

3624

DATE MAILED: 04/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/547,191

**Applicant(s)**

NORI ET AL.

**Examiner**

Ella Colbert

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24, 26-35 and 38-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-24 and 26-35 is/are allowed.
- 6) ☒ Claim(s) 38-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. Claims 1-24, 26-35, and 38-43 are pending. Claim 41 has been amended in this communication filed 02/20/04 entered as Amendment I, paper no. 35.
2. The 35 USC 112 second rejection for claim 38 has been overcome by Applicant's convincing argument and is hereby withdrawn. The 35 USC 112 second paragraph rejection for claim 41 has been withdrawn in view of a new ground(s) of rejection here below.
3. Applicant's drawings submitted 02/20/04 have been considered.
4. Claims 1-24 and 26-35 still remain allowed for the reasons here below.

***Allowable Subject Matter***

5. Claims 1-24 and 26-35 now renumbered 1-34 are allowable in light of the Applicants' arguments and in light of the prior art made of record.
6. The following is an Examiner's Statement of Reasons for Allowance:

The present Application has been thoroughly reviewed. Upon searching a variety of databases, the Examiner respectfully submits that –reading data from one or more rows of the set of one or more tables, wherein the one or more rows do not store an object id used for modeling the data in the one or more rows as an object that belongs to the object class, reading database metadata that defines how to derive object ids from values in one or more columns, and generating in the manner defined by the database metadata, an object id derived from one or more values in the one or more columns in the one or more rows –in a method of independent claim 1, reading first

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database metadata that indicates how to generate a column object from one or more columns and reading a first set of data from the one or more columns of a plurality of rows from the set of one or more tables, wherein the second database metadata defines the one or more tables, wherein the second database metadata does not specify how to generate the column object from the one or more columns of independent claim 7, database metadata that indicates how to derive object ids from values in one or more columns and a set of one or more tables, the set of one or more tables containing one or more rows, wherein the one or more rows do not store an object id for modeling the data in the one or more rows as an object that belongs to the object class – a system of independent claim 16, first database metadata that defines how to generate a column object from one or more columns and second database metadata that defines the one or more tables, wherein the second database metadata does not specify how to generate the column object from the one or more columns –a system of independent claim 19, a computer readable medium carrying one or more sequences of one or more instructions for presenting data from a set of one or more tables as a set of objects that belong to an object class, wherein the execution of the one or more sequences of the one or more instructions causes the one or more processors to perform the steps of reading data from one or more rows of the set of one or more tables, wherein the one or more rows do not store an object id used for modeling the data in the one or more rows as an object that belongs to the object class and reading database metadata that defines how to derive object ids from values in one or more columns in independent claim 20 and a computer-readable medium carrying one or more sequences of one or

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more instructions for presenting, as an object, data from a set of one or more tables residing in one or more database, wherein the execution of the one or more sequences of the one or more instructions causes the one or more processors to perform the steps of reading first database metadata that defines how to generate a column object from one or more columns and reading a first set of data from the one or more columns of a plurality of rows from the set of one or more tables, wherein second database metadata defines the one or more tables, wherein the second database metadata does not specify how to generate the column object from the one or more columns in independent claim 26, is not taught by the prior art of record (PTO-892, 1449).

Therefore, all pending claims are hereby allowed.

Since allowable subject matter has been indicated, Applicant is encouraged to submit formal drawings in response to this Office Action. The early submission of formal drawings will permit the Office to review the drawings acceptability and to resolve any informalities remaining therein before the application is passed to issue. This will avoid possible delays in the issue process.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Claim Rejections - 35 USC § 112***

7. Claims 38-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular,

A. Claims 38 and 41 are not sufficiently precise due to the combining of two separate statutory classes of invention in a single claim. The preamble of the claim refers to a method, but the body of the claim discusses the steps of a method (ex. maintaining a separate table definition), and subsequently the claim then deals with the specifics of the system of a metadata table definition (ex. a database server for deriving object ids) data in the table based on the metadata in claim 38. The preamble of claim 41 refers to a method, but the body of the claim discuss the steps of a system (ex. executing a query), and subsequently the claim then deals with the specifics of a method (ex. reading data, and accessing the data) from one or more rows ... in said database.

B. Claims 39-40 and 42-43 are rejected as being dependent on claims 38 and 41 as discussed above.

***Claim Rejections - 35 USC § 101***

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 38-43 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

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35 USC 101 requires that in order to be patentable the invention must be a “new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof” (emphasis added). Applicant’s claims mentioned above are intended to embrace or overlap two different statutory classes of invention as set forth in 35 USC 101. The claims begin by discussing a method (ex. preamble of claims 38 and 41), the body of claim 38 discusses the specifics of a method for maintaining separate from the table definition, and subsequently the claim then deals with the specifics of a system of a database server for deriving object ids and claim 41 discusses the specifics of the system of executing a query, and subsequently the claim then deals with the specifics of a method (the steps) executed by the query (see above rejection of claims under 35 USC 112, second paragraph, for specific details regarding this issue). “A claim of this type is precluded by the express language of 35 USC 101 which is drafted so as to set forth the statutory classes of invention in the alternative only”, Ex parte Lyell (17 USPQ2d 1548).

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over (US 5,907,847) Goldberg in view of (US 6,374,252) Althoff et al, hereafter Althoff.

With respect to claim 38, Goldberg teaches, A method for deriving object ids for data in a table that is managed by a database server and is defined by a table definition, comprising: maintaining, separate from the table definition, metadata that indicates how to derive object ids from values stored in the table (col. 6, lines 24-64).

Goldberg fails to teach, the database server deriving object ids for the data in the table based on the metadata. Althoff teaches, the database server deriving object ids for the data in the table based on the metadata (col. 7, lines 36-45, col. 12, lines 59-62, and col. 23, lines 43). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the database server derive the object ids for the data in the table based on the metadata and to modify in Goldberg in view of Goldberg's teachings of metadata, a database server, and object ids because such a modification would allow Goldberg to have a table that contains an object identifier with metadata including table relations to define each table in the DBMS.



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With respect to claim 39, Goldberg teaches, The method of Claim 38, further comprising the step of generating, based on a particular object id of said object ids, an object reference (col. 2, lines 22-52).

With respect to claim 40, Goldberg teaches, The method of Claim 39, further including the steps of: presenting particular data from said table as an object belonging to an object class and having said particular object id (col. 3, lines 21-38); said database server executing a database statement that identified said object reference (col. 6, lines 41-64); and wherein execution of said database statement causes the database server to access said particular data as said object (col. 6, lines 65-67 and col. 7, lines 1-21).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over (US 6,374,252) Althoff et al, hereafter Althoff in view of (US 5,600,005) Hoover et al, hereinafter Hoover

With respect to claim 41, Althoff teaches, The method for presenting data from a set of one or more tables in a database, the method comprising the steps of:

In response to executing a query that references an object view as if the object view were a table (col. 29, lines 3-67 and col. 30, lines 1-52). Althoff failed to teach, performing the steps of: reading data from one or more rows of the set of one or more

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tables indicated by metadata defines said object view, the object view defining a presentation of data as a set of objects that reside in said database, the set of one or more tables including at least one relational table. Hoover teaches, performing the steps of: reading data from one or more rows of the set of one or more tables indicated by metadata defines said object view, the object view defining a presentation of data as a set of objects that reside in said database, the set of one or more tables including at least one relational table (col. 14, lines 66-67, col. 15, lines 1-31, col. 25, lines 16-29, fig. 8 (step 130 shows one or more tables), col. 50, lines 42-62, fig. 23 (shows a display screen that can be read). Althoff and Hoover failed to teach, accessing said data from one or more rows as a set of objects that reside in said database, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to access said data from one or more rows as a set of objects that reside in said database and to modify in Althoff in view of Althoff's teachings of a table-based data model and an object-based relational model because such a modification would allow Althoff to have a computer system with a row of information about an individual format and another system may have information about the same individual in a different format with each characteristic constituting a separate field or attribute of a row in a relational or table-based model.

14. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Althoff and Hoover in view of (US 5,907,847) Goldberg.

With respect to claim 42, Althoff and Hoover failed to teach, The method of claim 41, further including the step of said database server executing a database statement at

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a database server, wherein execution of said database statement by said database server causes said database server to access said data from one or more rows.

Goldberg teaches, The method of claim 41, further including the step of said database server executing a database statement at a database server, wherein execution of said database statement by said database server causes said database server to access said data from one or more rows (col. 2, lines 9-52). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the step of said database server executing a database statement at a database server, wherein execution of said database statement by said database server causes said database server to access data from one or more rows and to modify in Althoff because such a modification would allow Althoff to have a system that uses tables that contains information that describes the structure of the data in the database management system.

With respect to claim 43, Althoff and Hoover failed to teach, The method of claim 42, wherein: said database statement includes an object reference to a particular object of said set of objects; and wherein execution of said database statement by said database server causes said database server to access said data from one or more rows. Goldberg teaches, The method of claim 42, wherein: said database statement includes an object reference to a particular object of said set of objects; and wherein execution of said database statement by said database server causes said database server to access said data from one or more rows (col. 3, lines 20-67 and col. 4, lines 1-3). It would have been obvious to one having ordinary skill in the art at the time the

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invention was made to have the said database statement include an object reference to a particular object of said set of objects and wherein execution of said database statement by said database server causes said database server to access said data from one or more rows and to modify in Althoff because such a modification would allow Althoff have to a Database Management Server to access separate sources to obtain information and consistency between the DBMS server and the client.

### ***Response to Arguments***

15. Applicant's arguments with respect to claim 38-43 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gerull et al (US 5,426,780) disclosed the conversion of relational data into object-oriented data.

Duggan et al (US 5,619,638) disclosed objects providing views into a data object.

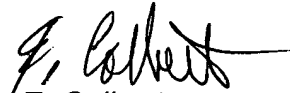
### ***Inquiries***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ella Colbert whose telephone number is 703-308-7064. The examiner can normally be reached on Monday-Thursday from 6:30 am -5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on 703-308-1038. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
E. Colbert  
April 22, 2004